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| 10/633,266      | 07/31/2003  | Edwin R. Leonard     | 590282001500        | 3359             |

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| EXAMINER |
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RAMAKRISHNAIAH, MELUR

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| ART UNIT | PAPER NUMBER |
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2643

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/633,266

Applicant(s)

LEONARD ET AL.

Examiner

Melur Ramakrishnaiah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5,8-34 and 39-49 is/are pending in the application.
- 4a) Of the above claim(s) 45 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5,8-10,12-19,21-23,26,29,32-34,39,40 and 44 is/are allowed.
- 6) ☒ Claim(s) 11,15,20,24,27,28,30-43 and 46-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11-1-04/ 4-21-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Newly submitted claim 45 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claim is directed to a conference rooms which are configured to have a reverberation time, frequency response, and other acoustic characteristics that approximate the response of a room with about twice the physical volume of at least one conference room. As can be seen from this limitation, the claim is directed to determining acoustic characteristics of a room which is distinct from the original claims which are directed to camera arrangement behind a screen, arrangement of speakers behind display screen, and indirect lighting of the conference room.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 45 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11, 30, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al. (JP357061389A, hereinafter Okubo) in view of Nomiya et al. (JP 401206765A, hereinafter Nomiya) and Plenge (DE 3442388C).

Regarding claim 30, Okubo discloses a method of video conferencing between a first conference and a second conference room, comprising: receiving in the first conference room an image of a second conference room, projecting the image onto to a first large format display system in the first conference room at or near life size, capturing an image of the first conference room and a participant in the first conference room, the participant having a line of sight to a medial portion of the first large format display system, the line of sight being within the field of view of an camera (1, figs. 8-9) in the first conference room and camera substantially hidden from view of the participant, and transmitting the captured image to the second conference room for viewing (see abstract).

Okubo differs from claim 30 in that he does not teach the following: an audio capture system for capturing audio from the conference room, the audio capture system having a microphone, and an audio amplification system for projecting audio in the conference room, the audio amplification system comprises at least one speaker in the conference room so the audio seems to emit from an image of a participant on the large format display system, and wherein the audio capture system and the audio amplification system are capable of permitting simultaneous dialog between the participants in the conference room and the second conference system, where at least one speaker of the audio amplification system is located behind the large format display at a height at or near the height of a participant on a large format display.

However, Nomiya discloses a video conference system which teaches the following: an audio capture system for capturing audio from the conference room, the

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audio capture system having a microphone (2, figs. 1-2), and an audio amplification (not shown) system for projecting audio in the conference room, the audio amplification system comprises at least one speaker (5a... 5c) in the conference room so the audio seems to emit from an image of a participant on the large format display system (4, figs. 1-2) and wherein the audio capture system and the audio amplification system are capable of permitting simultaneous dialog between the participants in the conference room and the second conference system (see abstract); and Plenge teaches the following: at least one speaker of the audio amplification system is located behind the large format display at a height at or near the height of a participant on a large format display (fig. 1, see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Okuba's system to provide for the following: an audio capture system for capturing audio from the conference room, the audio capture system having a microphone, and an audio amplification system for projecting audio in the conference room, the audio amplification system comprises at least one speaker in the conference room so the audio seems to emit from an image of a participant on the large format display system, and wherein the audio capture system and the audio amplification system are capable of permitting simultaneous dialog between the participants in the conference room and the second conference system as this arrangement would facilitate to attain presence in the video conference system as taught by Nomiya; where at least one speaker of the audio amplification system is located behind the large format display at a height at or near the height of a participant

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on a large format display as this arrangement would facilitate to obtain realistic sound effect as taught by Plenge, thus making sound effects more realistic corresponding to images displayed on the screen.

Regarding claims 11 and 43, claims 11 and 43 are rejected for the same reasons as set forth in the rejection of claim 30.

3. Claims 20, 31, 41, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US PAT: 5,751,337, hereinafter Allen) in view of Holder (US PAT: 5,988,829) and Wilson et al. (US PAT: 5,467,152, hereinafter Wilson).

Regarding claim 20, Allen teaches the following: a first conference room and a second conference room, the conference rooms electronically coupled together to permit transmission of images from each room to other room for viewing, each conference room (figs. 1-2) having a large format display (46, figs. 1-2) for projecting images, a camera (62, 64, figs. 1-2) positioned with respect to large format display screen (46, figs. 1-2) to capture an image of the conference room and a participant without substantially obscuring the participant's view of the large format display system so as to provide perception that the participant in the room is looking directly at a participant in the other conference system (col. 7, line 19 – col. 11, line 31), plurality of overhead indirect lighting fixtures (56, fig. 1, col. 5, lines 7-9, col. 6 lines 10-12) and a conference table (50, fig. 1).

Allen differs from claim 20 in that although he teaches use of overhead indirect lighting (56, fig. 1); he does not explicitly teach the following: plurality of side indirect lighting fixtures, and a light source underneath the table.

However, Holder teaches the following: side indirect lighting fixtures (see abstract); and Wilson teaches the following: a light source underneath the table (col. 1 lines 18-20).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Okuba's system to provide for the following: plurality of side indirect lighting fixtures, and a light source underneath the table as this arrangement would facilitate to meet the needs of lighting required for various applications including conference applications.

Regarding claims 31, and 41, these claims are rejected for the same reasons set forth in the rejection of claim 20.

Regarding claim 42, Allen teaches the following: furnishing rooms with substantially similar furnishings, the furnishings arranged in a substantially similar manner, including similar furniture, lights wall color, and wall surfaces (col. 6 lines 10-31).

4. Claims 24-25, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Nomiya and Plenge as applied to claim 11 above, and further in view of in view of Wakabayshi et al. (JP409205626A, hereinafter Wakabayshi).

Regarding claims 24-25, 28, the combination does not teach the following: a half mirror beam splitter oriented at an angle with respect to the large format display system and positioned near the horizontal middle of the large format display system and at or about eye level of the participant in the conference room and the participant and project the image into the lens of the camera, a half mirror beam splitter oriented with respect to

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the large format display system and positioned such that line of sight of a participant in one room to an image on the large format display system of a participant in another room passes through the mirror beam splitter to provide perception of the participant looking directly at the participant in the other conference room, half mirror beam splitter is located at a height at or near the eye level of the participant in the conference room.

However, Wakabayshi discloses face to face image pickup display system and video camera therefor which teaches the following: a half mirror beam splitter (9, fig. 1) oriented at an angle with respect to the large format display system and positioned near the horizontal middle of the large format display system (1, fig. 1) and at or about eye level of the participant in the conference room and the participant and project the image into the lens of the camera, a half mirror beam splitter oriented with respect to the large format display system and positioned such that line of sight of a participant in one room to an image on the large format display system of a participant in another room passes through the mirror beam splitter to provide perception of the participant looking directly at the participant in the other conference room, half mirror beam splitter is located at a height at or near the eye level of the participant in the conference room (fig. 1, see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: a half mirror beam splitter oriented at an angle with respect to the large format display system and positioned near the horizontal middle of the large format display system and at or about eye level of the participant in the conference room and the participant and project the



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image into the lens of the camera, a half mirror beam splitter oriented with respect to the large format display system and positioned such that line of sight of a participant in one room to an image on the large format display system of a participant in another room passes through the mirror beam splitter to provide perception of the participant looking directly at the participant in the other conference room, half mirror beam splitter is located at a height at or near the eye level of the participant in the conference room as this arrangement would provide an alternative means to accomplish line of sight of video conferencing as taught by Wakabayshi, thus contributing towards more realistic video conferencing.

5. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Nomiya , Plenge , Wakabayshi as applied to claim 24 above, and further in view of in view of Toritsuka (JP408214271A).

Regarding claim 27, the combination does not teach the following: half mirror beam splitter is at least partially transparent, providing the participants in the conference room a substantially unobstructed view of the display system.

However, Toritsuka discloses video conference system which teaches the following: half mirror beam splitter (8, fig. 1) is at least partially transparent, providing the participants in the conference room a substantially unobstructed view of the display system (1, fig. 1, see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: half mirror beam splitter is at least partially transparent, providing the participants in the conference

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room a substantially unobstructed view of the display system as this arrangement would provide line of sight video conferencing with clear view of display as taught by Toritsuka.

6. Claims 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen) in view of Holder and Wilson as applied to claims 20, 31, 41 above, and further in view of Knsut et al. (US PAT: 6,848,994, filed 1-17-2000, hereinafter Knsut).

The combination differs from claims 46-48 in that it teaches light source underneath the table (col. 1 lines 18-20 of '152); It does not teach the following: lighting along the underside edges of the table.

However, Knsut teaches the following: lighting (50, fig. 2) along the underside edges of the table (figs. 2-3, col. 3 lines 50-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: lighting along the underside edges of the table as this arrangement would facilitate lighting the table to meet the application requirements of the intended use as taught by Knsut.

7. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen in view of Holder (US PAT: 6,062,704).

Regarding claim 49, Allen discloses a video conference system comprising: a first conference room and second conference room (fig. 1), the conference rooms are electronically coupled together to permit transmission of images from each room to the other room for viewing, each conference room having, a large format display (46, fig. 1) for projecting images, and a camera (62, 64, figs. 1-2) positioned with respect to large format display system to capture an image of the conference room and a participant in

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the room, without substantially obscuring the participant's view of the large format display so as to provide the perception that the participant in the room is looking directly at a participant in the other conference room (col. 5, lines 7-9, col. 6 lines 10-12), further comprising in each conference room: plurality of panels arranged along side the large format display system (46, fig. 1), plurality of panels arranged alongside a location of the participant in each conference room, and a plurality of panels arranged along the conference room and further from large format display (46, fig. 1) than is the location of the participant in the conference room (col. 5, line 1 – col. 6, line 39).

Allen differs from claim 49 in that although he discloses suitable lighting for the conference room (fig. 1, col. 5 lines 7-9); he does not explicitly teach the following: panel defines at least one recess having a light source therein.

However, Holder teaches the direct/indirect lighting fixtures particularly intended for recessed lighting (col. 1, line 59 – col. 2, line 4).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Allen to provide for the following: panel defines at least one recess having a light source therein as this arrangement would facilitate lighting scheme with aesthetic appeal as taught by Holder.

8. Claims 1-3, 5, 8-10, 12-19, 21-23, 26, 29, 32-34, 39-40, 44 are allowed.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 11, 20, 24-25, 27-28, 30, 31, 41-43, 46-49 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on M-F 6:30-4:00; every other F Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703)305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Melur Ramakrishnaiah  
Primary Examiner  
Art Unit 2643